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Premilitary Intimate Partner Violence and Attrition from the U.S. Navy

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A prospective study of U.S. Navy recruits (N=5,498) examined whether premilitary intimate partner violence (IPV) was associated with attrition. Overall, more than one-fourth of recruits reported premilitary physical IPV and more than two-thirds reported premilitary verbal IPV. Women reported more perpetration and receipt of IPV than men, and married or cohabiting respondents reported more IPV than single respondents. Both perpetration and receipt of IPV significantly predicted attrition within 4 years. However, after controlling for other forms of IPV, only receipt of physical IPV significantly predicted attrition. In only one analysis did associations between IPV and attrition vary according to marital status or gender; premilitary receipt of verbal IPV had different effects on women and men.

Introduction

↑ ntimate partner violence (IPV) is a significant social problem I in the United States. Both perpetration and receipt of IPV have been associated with numerous negative effects, including increased risk of depressive symptoms, substance abuse, mental illness, and injury. 1.2 As a result, IPV is likely to have significant effects on worker productivity for both perpetrators and victims. Many of the negative consequences of IPV, such as depressive symptoms and substance abuse, have been shown to affect job performance.^{3,4} Moreover, men engaging in IPV attribute work absences and decreased work productivity to their perpetration of abuse.⁵ In the present study, we tested the hypothesis that U.S. Navy recruits who reported a premilitary history of IPV, relative to those who did not, would be more likely to leave the military. Although there have been studies of historical factors that may be associated with attrition among U.S. Navy recruits, 6,7 including a childhood history of family violence, 8 to our knowledge no study has examined the association between Navy recruits' premilitary receipt or perpetration of IPV

We also examined whether premilitary IPV has different effects on attrition for women versus men. Data suggest that women are at least as likely as men to perpetrate IPV, although male-to-female IPV tends to be more severe. 9.10 To the extent that this is true, female IPV victims may be more likely than male victims to leave the military. Furthermore, we examined whether the impact of IPV on attrition varies as a function of marital status. Although many studies of IPV have focused only

on violence between spouses, research indicates that IPV is common in dating relationships. 9.10 However, patterns of IPV may be more stable for individuals in intact couple (i.e., married or cohabiting) relationships than for those who are single and may more readily change romantic partners. Therefore, we tested whether premilitary IPV was a stronger predictor of attrition for married or cohabiting Navy recruits than for single Navy recruits.

Methods

Participants

Incoming male (n=2,925) and female (n=2,573) Navy recruits at the Recruit Training Center at Great Lakes, Illinois, voluntarily completed a set of self-report survey instruments. Overall, 94% of men and 93% of women invited did participate. The analyses reported below are based on 4,756 respondents (2,435 men and 2,321 women) who provided complete data on the IPV measure and for whom attrition information was available across the 4-year period of the study. The majority of recruits (90%) were single, with 6% married, 3% cohabiting, and 1% other. Participants ranged in age from 17 to 35 years (mean, 19.66 years; SD, 2.52 years). Most participants had completed high school or the equivalent (88%), with smaller numbers reporting no high school degree (4%) or some college (7%). Participants were diverse in ethnicity, with 62% Caucasian, 19% African American, 11% Hispanic, and 8% other.

Measures

IPV was assessed with the Conflict Tactics Scale-Intimate Partner. ¹¹ The Conflict Tactics Scale-Intimate Partner includes 18 items, each describing a behavior that might occur during a conflict with a romantic partner. Three items assessed reasoning, six assessed verbal aggression, and nine assessed physical aggression. Respondents indicated whether they had ever displayed each behavior toward a romantic partner and whether a romantic partner had ever displayed each behavior toward them. Based on their responses, participants were classified in terms of whether they had ever experienced verbal or physical IPV and whether they had ever perpetrated verbal or physical IPV before entering the Navy. Parallel analyses in which IPV was considered to have occurred only in cases of severe or very severe IPV yielded a pattern of effects identical to that described below.

Procedures

The information gathered in the present study was part of a more extensive survey package offered to Navy recruits during their first week at the Recruit Training Center between June

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1996 and June 1997. Nonmilitary personnel of the same gender as participants administered the survey package in a classroom setting to single-gender groups of recruits. Participation was voluntary. Before agreeing to participate, recruits were provided with a description of the study, a Privacy Act statement, and an informed consent form describing their rights as participants, including the right to "leave blank any section or questions" and to "stop at any time before completing the survey." Participants granted permission to the researchers to obtain additional information about their military records and to analyze these data in conjunction with information provided on the survey. Attrition data (across the 4-year period following the survey) for participants in the study were obtained from the Career History Archival Medical and Personnel System database¹² of the Naval Health Research Center in San Diego, California.

Statistical Analyses

The primary analytic technique used to test our hypothesis was logistic regression. Results are presented in terms of odds ratios (ORs) and associated 95% confidence intervals (CIs). ORs indicate the magnitude by which an outcome is more likely for members of one group versus members of another group. CIs that do not include the value of 1.0 are statistically significant (p < 0.05), and nonoverlapping CIs indicate that the magnitude of relationships between variables significantly differs for different groups. Reported R^2 values are based on Nagelkerke's estimated R^2 for logistic regression. 13

Results

Rates of IPV

Overall, 26% of respondents reported that they had perpetrated physical IPV and 30% indicated that they had been the victims of physical IPV. Reports of perpetration and receipt of physical IPV were strongly related ($\varphi=0.44$). Relative to a person who had received no physical IPV, an individual who had received physical IPV was 8.05 times more likely to perpetrate physical IPV (95% CI, 6.96–9.28).

Reported rates of verbal IPV were higher than those for physical IPV. Overall, 73% of respondents reported perpetrating verbal IPV and 67% reported that they had been recipients of verbal IPV. As for physical IPV, perpetration and receipt of verbal IPV were strongly associated ($\varphi=0.57$). Relative to a person who had received no verbal IPV, an individual who had received

verbal aggression was 17.02 times more likely to perpetrate verbal IPV (95% CI, 14.53–19.94). The association between receipt and perpetration of aggression was significantly stronger for verbal IPV than for physical IPV, as indicated by the fact that the CIs for the two ORs did not overlap.

Finally, verbal and physical forms of IPV were significantly associated. Individuals who perpetrated verbal IPV, compared with those who did not, were 18.01 times more likely to perpetrate physical IPV (95% CI, 12.89–25.16; $\varphi=0.23$). Similarly, respondents who had received verbal IPV, compared with those who had not, were 24.78 times more likely to report receipt of physical IPV (95% CI, 18.49–33.21; $\varphi=0.42$).

Logistic regression analyses were conducted to examine whether rates of IPV differed as a function of gender or marital status. Results are provided in Table I. As can be seen in Table I, women and men were equally likely to report receipt of physical IPV. However, gender differences in the other forms of IPV were statistically significant. Women were nearly four times more likely than men to report perpetrating physical IPV, >2 times more likely than men to report perpetrating verbal IPV, and 1.29 times more likely than men to report receiving verbal IPV. The CIs for different types of IPV did not overlap, indicating that the strength of gender differences significantly differed across different forms of IPV. With respect to marital status, married or cohabiting respondents were ~2 times more likely than single respondents to report all types of IPV. These effects did not significantly differ in magnitude across the four types of IPV. Additional logistic regression analyses in which the interaction of gender and marital status was entered on the second step indicated no significant interaction effects ($p \ge 0.12$). Therefore, the effects of marital status on IPV did not differ for men and women.

IPV and Attrition

Overall, 33% of participants (n = 1,577) left the military during the 4-year follow-up period. Attrition was most likely to occur within the first year (44%) and was less likely to occur in subsequent years (28% in year 2, 18% in year 3, and 10% in year 4). Separate logistic regression analyses were conducted predicting attrition from each form of IPV, as well as gender and marital status. Results are provided in Table II. As can be seen in Table II, in no analysis was gender a significant predictor of attrition; in every analysis, marital status was a significant predictor of attrition, with married or cohabiting participants

TABLE I
PREDICTION OF PREMILITARY IPV FROM GENDER AND MARITAL STATUS

	Physical IPV		Verbal IPV	
	Perpetration $(n = 4,669)$	Receipt (n = 4,666)	Perpetration $(n = 4,670)$	Receipt $(n = 4,670)$
Gender (female)				
OR	3.86	0.91	2.15	1.29
95% CI	3.35-4.46	0.80-1.03	1.88-2.46	1.14-1.46
Marital status (married/cohabiting)				
OR	1.62	1.62	2.31	2.15
95% CI	1.30-2.03	1.32-1.98	1.75-3.05	1.68-2.75
R^2	0.12	0.01	0.05	0.02

ORs of >1.0 indicate that women or married/cohabiting respondents reported higher levels of IPV than men or single respondents, respectively.

TABLE II	
MILITARY ATTRITION AS A FUNCTION OF PREMILITARY IPV. GENDER	. AND MARITAL STATUS

	Physical IPV		Verbal IPV	
	Perpetration $(n = 4,669)$	Receipt $(n = 4,666)$	Perpetration $(n = 4,670)$	Receipt (n = 4,670)
IPV				
OR	1.21	1.23	1.16	1.05
95% CI	1.05-1.40	1.08-1.40	1.01-1.34	0.92 - 1.20
Gender (female)				
OR	1.06	1.12	1.09	1.11
95% CI	0.94-1.21	0.99 - 1.27	0.96-1.23	0.98-1.26
Marital status (married/cohabiting)				
Yes	1.42	1.42	1.41	1.43
No	1.15-1.74	1.15-1.74	1.15-1.73	1.16-1.75

ORs reflect how much more likely attrition was for those with IPV experiences, for women versus men, and for married or cohabiting versus single respondents.

being more likely to leave the military than their single counterparts. With respect to IPV, ORs in Table II show that individuals were more likely to leave the military if they had perpetrated or received premilitary physical violence and if they had perpetrated verbal IPV in the past. However, the receipt of verbal IPV was not significantly related to attrition. Nonetheless, the impact of different forms of IPV on attrition did not significantly differ, as indicated by the overlap between the CIs for each form of IPV.

Additional logistic regression analyses examined whether the impact of IPV on attrition varied as a function of gender or marital status. In these analyses, interactions between the three predictor variables (IPV, gender, and marital status) were entered in the second step of the logistic regression. One interaction emerged as significant. When predicting attrition from receipt of verbal aggression, there was a significant IPV-gender interaction (OR, 1.39; 95% CI, 1.07-1.81). Follow-up analyses indicated that receipt of verbal IPV was a significant predictor of attrition for women (OR, 1.28; 95% CI, 1.05-1.54). For men, however, receipt of verbal aggression was not associated with attrition (OR, 0.91; 95% CI, 0.76-1.09). That is, women who received verbal aggression before entering the military, compared with those who did not, were more likely to leave the military, but men who previously received verbal aggression, compared with those who did not, were equally likely to leave the military.

The final logistic regression model simultaneously examined the impact of all four forms of IPV, as well as gender and marital status, on attrition. This analysis estimated the effects of each form of IPV on attrition after controlling for the effects of other forms of IPV, gender, and marital status. Results of the analysis are provided in Table III. Consistent with the results reported above, gender was unrelated to attrition (OR, 1.08; 95% CI, 0.95–1.23), whereas marital status was a significant predictor (OR, 1.41; 95% CI, 1.15–1.73). As before, married or cohabiting respondents, compared with single respondents, were more likely to leave the military. The only form of IPV that remained a significant predictor of attrition after controlling for other factors was the receipt of physical abuse. As in the previous analyses, however, the CIs for the four forms of IPV overlapped, indicating that their effects on attrition did not significantly differ. In an additional logistic regression analysis in which all possible two-

TABLE III
PARTIAL ASSOCIATIONS BETWEEN PREMILITARY IPV AND MILITARY

	Physical IPV		Verbal IPV	
	Perpetration $(n = 4,669)$	Receipt (n = 4,666)	Perpetration $(n = 4,670)$	Receipt $(n = 4,670)$
OR 95% CI	1.11 0.94–1.31	1.19 1.02-1.40	1.16 0.97-1.38	0.88 0.74–1.04

ORs represent the factor by which attrition is more likely among victims/perpetrators of each type of IPV than among nonvictims/non-perpetrators, controlling for the occurrence of the other forms of IPV, gender, and marital status.

way interactions between IPV, gender, and marital status were entered in the second step, only the interaction between gender and receipt of verbal IPV approached significance (OR, 1.35; 95% CI, 0.96-1.89; p=0.08).

Discussion

Recruits reported substantial rates of premilitary IPV. Overall, more than one in four reported premilitary perpetration (26%) or receipt (30%) of physical IPV. Verbal IPV was much more common than physical IPV, with three-fourths of respondents reporting premilitary perpetration and two-thirds reporting premilitary receipt of verbal IPV. These rates are similar to rates reported for the general population.¹⁴

As expected, IPV perpetration and receipt were highly correlated. Recruits who reported receiving physical IPV, relative to those who did not, were 8 times more likely to report perpetration of physical IPV. Similarly, recruits who reported receiving verbal IPV, relative to those who did not, were 17 times more likely to report perpetration of verbal IPV. In addition, verbal IPV and physical IPV were strongly related. Perpetrators of one type of IPV were 18 times more likely than nonperpetrators to report perpetrating the other type of IPV. Similarly, victims of one form of IPV were nearly 25 times more likely than nonvictims to report that they had been victims of the other form. These results make clear the difficulties of studying one form of IPV independent of other forms. IPV occurs in a complex social context in which the same person may be both victim and perpetrator and in which verbal IPV and physical IPV are likely to co-occur.

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As is typically the case among young single adults, ¹⁵ in our sample women were more likely than men to report perpetrating IPV, particularly physical IPV. Women also were more likely than men to report receipt of verbal IPV, but not physical IPV. It is possible that women are more likely than men to engage in IPV, as these results suggest. However, it also is possible that these apparent differences reflect reporting biases. That is, women may be more willing than men to admit to IPV experiences, perhaps because male-to-female violence is perceived as a greater violation of social norms than is female-to-male violence, because violence perpetrated by men is more likely to produce serious injury, ¹⁰ or because women are more willing than men to disclose personal information.

Marital status was significantly associated with all four forms of IPV studied. Married or cohabiting respondents were more likely than single respondents to report that they had perpetrated or received physical or verbal IPV before entering the military. This may simply reflect the fact that respondents who are married or cohabiting as they enter the military have had greater opportunities to experience premilitary IPV by virtue of their involvement with a romantic partner.

Across the 4-year follow-up period, approximately one-third of Navy recruits left the military. This rate of attrition is similar to those found in previous reports. ¹⁶ Although it is necessary to consider many different factors to predict accurately which individual military personnel will leave the military, the present study found that, when different forms of IPV were considered separately, both perpetration and receipt of physical aggression, as well as perpetration of verbal aggression, were significantly associated with attrition. However, when the different forms of IPV were considered simultaneously, the only form of IPV that remained a significant predictor of attrition was receipt of physical IPV.

It seems reasonable that receipt of physical IPV is the most deleterious form of IPV when all forms of IPV are considered simultaneously, given that physical IPV is often considered more serious than verbal IPV and given that victimization is more likely than perpetration to result in potentially disruptive outcomes such as physical injury. However, the fact that three of the four forms of IPV were significant predictors of attrition when considered independently suggests that perpetration of IPV also is predictive of attrition. Both perpetration and receipt of IPV may be predictive of attrition but at least partly for different reasons. It would be interesting to examine whether there are differences in the specific reasons for attrition between IPV perpetrators and victims, as well as between people with and without premilitary IPV experiences.

Our findings suggest that, with one exception, the impact of premilitary IPV on attrition was no different for women than for men. This is surprising, because previous research suggested that male perpetration is likely to result in more severe injuries than female perpetration of IPV. ¹⁰ The only analysis in which the effects of IPV were significantly different for men and women was that for receipt of verbal aggression. Women who received verbal IPV were significantly more likely to leave the military than were those who had not, whereas men who had been the recipients of verbal IPV were no more likely to leave the military than were those who had not. We have no ready explanation for this gender

difference. Furthermore, because it was not a predicted effect, we think that it would be premature to speculate about this finding before its replication.

As discussed previously, one might expect stronger relationships between premilitary IPV and attrition for members of intact couples than for single respondents. However, our results indicated that the effects of premilitary IPV on attrition did not vary as a function of marital status. Although married or cohabiting respondents were consistently more likely than single respondents both to report IPV and to leave the military, the two groups did not differ in terms of the association between IPV and attrition. In hypothesizing that members of intact couples, relative to their single counterparts, would exhibit a stronger association between IPV and attrition, we had assumed that IPV would be more stable and chronic within intact couples than for single people. Perhaps this is not the case. In future research, it would be interesting to directly examine the chronicity of IPV, both in relation to marital status and as a predictor of military attrition.

A strength of the present study is that we examined the effects of both premilitary perpetration and premilitary receipt of verbal and physical IPV on attrition, in a large sample that included both men and women, as well as single and married or cohabiting respondents. Although IPV was a significant predictor of attrition, the effects of IPV on attrition were generally small. Nevertheless, we think that premilitary IPV merits further study, because it has been associated with a wide range of other problems. Premilitary perpetration and receipt of IPV may disrupt military performance in other ways than by causing attrition, perhaps by increasing absenteeism or the use of medical and psychological services. In this regard, it also would be interesting to study the association between premilitary IPV and other indicators of success in the military, such as promotions and performance ratings.

Finally, the present study considered only IPV that occurred before entering the military. IPV that occurs in the military may constitute a stronger predictor of attrition than IPV that occurred before entering the military, especially when considering attrition that occurs relatively later during the term of military service. Although instances of past IPV are associated with subsequent IPV in the general population, entering the military may represent a substantial life change, with new values and structure that may decrease the likelihood that previous patterns of behavior will continue. Alternatively, military service, or exposure to particular experiences such as deployment, may be associated with increased risk of IPV. Exploration of these issues awaits further research.

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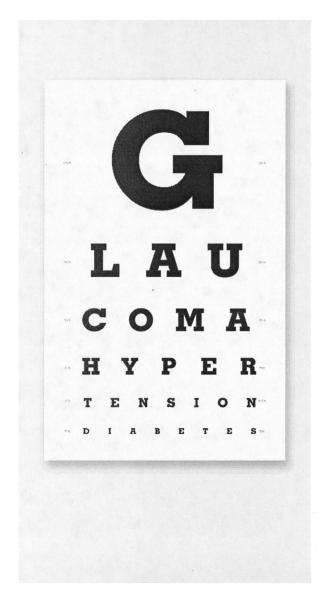
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14. ABSTRACT (maximum 200 words)

A prospective study of U.S. Navy recruits (N_{-} 5,498) examined whether premilitary intimate partner violence (IPV) was associated with attrition. Overall, more than one-fourth of recruits reported premilitary physical IPV and more than two-thirds reported premilitary verbal IPV. Women reported more perpetration and receipt of IPV than men, and married or cohabiting respondents reported more IPV than single respondents. Both perpetration and receipt of IPV significantly predicted attrition within 4 years. However, after controlling for other forms of IPV, only receipt of physical IPV significantly predicted attrition. In only one analysis did associations between IPV and attrition vary according to marital status or gender; premilitary receipt of verbal IPV had different effects on women and men

15. SUBJECT TERMS

premilitary intimate partner violence (IPV), verbal IPV, premilitary IPV

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